Abandoned Uranium Mine Site Assessment for the Chill Willis Site (NM0101)

FINAL REPORT

Prepared For:

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1.0 INTRODUCTION

INTERA Incorporated (INTERA) has prepared this Abandoned Uranium Mine (AUM) Site Assessment Report for the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) in compliance with the Professional Service Agreement dated November 2, 2009. INTERA visited the Chill Willis Mine Site (AUM Site), MMD ID: NM0101, on March 23, 2010.

1.1 PREVIOUSLY KNOWN INFORMATION ABOUT THE SITE

The AUM Site is part of the Ambrosia Lake subdistrict of the Grants Uranium Mining District (McLemore, 1983). The Ambrosia Lake subdistrict is also known as the Poison Canyon Trend (Anderson, 1980). The uranium is found in the Poison Canyon sandstone in the lower Brushy Basin Member of the Jurassic Morrison Formation (Anderson, 1980 and McLemore, 1983). Other possible aliases for this AUM Site are "Chill Wills" and "Rialto." McLemore describes the production shaft to be 450 feet deep and the Anderson Report describes that vertical shaft as being a 375 feet deep timbered shaft (Anderson, 1980 and McLemore, 1983). The shaft was mined from 1960 to 1963, during which 10,950 tons of ore yielding 37,693 pounds of U_3O_8 at a production grade of 0.17 percent were produced (McLemore, 1983). In 1980, the Anderson Report records scintillometer readings from the dump and waste piles south of the shaft to range from 600 to 1,500 counts per second (cps) (Anderson, 1980).

In 1963, when the mine at this AUM Site was temporarily shut down for additional drilling and exploration, the main shaft collapsed (Anderson, 1980). The collapse occurred after a de-watering hose sprang a leak approximately 90 feet below the ground surface and washed out the shaft wall 50 feet back from the main shaft wall (Anderson, 1980). This caused some of the shaft timbering to fail (Anderson, 1980). Minimal equipment was saved before the entire shaft caved in and the 45 feet tall headframe toppled into the shaft (Anderson, 1980). An estimated $50,000 worth of equipment was lost inside the mine shaft (Anderson, 1980). The Anderson Report also describes the main dump, 85 feet long and 35 feet wide, and other ore stock pile areas and/or dumps east of the main dump (1980).

1.2 SITE LOCATION AND DIRECTIONS

The AUM Site is located on private land in the NW ¼ of Section 24, Township 13 North, Range 9 West. This AUM Site is located in McKinley County and is approximately 15 miles north of the town of Grants (Figure 1).

To reach the AUM Site from Albuquerque, drive approximately 83 miles west on Interstate 40. Take Exit 79 toward NM-122/NM-605, Milan/San Mateo. Turn right on Horizon Boulevard, continue approximately 400 feet and turn left at Willow Drive. Continue on Willow Drive for 0.2 miles and turn right onto NM-605. Continue on NM-605 for 16 miles. Approximately 2.2 miles after passing the turn for Ambrosia Lake Road/NM-509 turn right onto the Schmitt Ranch. The AUM Site is located ½ mile west of the ranch and must be accessed through gates on the Schmitt Ranch with permission of the landowner. Note: this is a different ranch and landowner than the Schmitt Ranch referenced in the AUM assessment for NM0141, Bobcat.

1.3 SITE GEOLOGY

The AUM Site is located near San Mateo Creek in a valley north of La Jara Mesa, on the eastern side of the Colorado Plateau and the southeastern edge of the San Juan Basin. The AUM Site is characterized as being in the Brushy Basin Member of the Morrison Formation (McLemore, 1983). The Jurassic Brushy Basin Member consists of light greenish-gray shales with interbedded sandstone lenses (McLemore, 1983). The uranium at this AUM Site is found in the basal Poison Canyon sandstone of the Brushy Basin Member (McLemore, 1983). The Poison Canyon sandstone is an arkosic sandstone that was deposited in a braided stream environment and is similar to the upper Westwater Canyon sandstones (McLemore, 1983). Uranium mineralization in the Poison Canyon sandstone occurs as primary-tabular and redistributed ore bodies (McLemore, 1983).

1.4 SITE HYDROGEOLOGY

The AUM Site is located approximately 1000 feet northeast of San Mateo Creek in a flat valley. The AUM Site is located on flat land, though surface runoff either runs off to San Mateo Creek or seeps into the ground and then flows toward San Mateo Creek. San Mateo Creek, an ephemeral stream, locally flows west around La Jara Mesa and then south-southwest to Rio San Jose. Rio San Jose is an intermittent stream that flows east-southeast past the town of Grants and into the Rio Puerco. The Rio Puerco is also an intermittent stream that flows southeast into the Rio Grande south of Belen.

The AUM Site is located in the Bluewater groundwater basin, which covers the south central portion of McKinley County and the north central portion of Cibola County (Edwards and Kiely, 2004). The Bluewater Basin contains a patchwork of groundwater aquifers, though the most productive is the San Andres-Glorieta Aquifer (Edwards and Kiely, 2004). Many domestic and stock wells utilize groundwater in the alluvium of surface drainages but the majority of potable groundwater comes from the San Andres-Glorieta Aquifer, including the town of Grants' municipal supply (Edwards and Kiely, 2004).

1.5 REGIONAL TOPOGRAPHY AND TERRAIN

The AUM Site can be found on the San Mateo Quadrangle 7.5 minute United States Geological Survey topographic map at an elevation of approximately 6900 feet above mean sea level (Figure 2). The AUM Site is located north of La Jara Mesa in a flat valley. The broader region around the AUM Site consists of mesas and broad flat valleys. An aerial photograph of the terrain surrounding the AUM Site is shown in Figure 3.

2.0 MINE FEATURES

The mine features described below are based on the features provided to INTERA by MMD in the GIS Data Dictionary (MMD, 2009). INTERA marked the locations of the AUM Site features using a Trimble Global Positioning System (GPS) and entered details about the features into the GPS using the MMD data dictionary. The AUM Site consists of two shafts, seven piles, three structures, one pit, one foundation, one fence line, and miscellaneous debris such as wooden beams, car parts, glass, metal and numerous tires. Please see the Photo Log in Appendix A for

photos, Table 1 for a list of all AUM Site features, and Figure 4a and 4b for the locations of the AUM Site features.

2.1 MINE SHAFTS, ADITS, AND DECLINES

Two shafts were found at the AUM Site. ShaftPly-1 was located at the northern end of the disturbance area and was surrounded by a fence (Fenc-1) put up by the leasee. The shaft is reported to be 375 to 450 feet deep, though collapsed and filled in approximately to a 50 foot depth (Anderson, 1980 and McLemore, 1983). The shaft is approximately 15 feet in diameter and has three wooden beams extending vertically from the shaft opening. Wooden beams can be seen inside the shaft as well. ShaftPly-2 was located approximately 150 feet south of ShaftPly-1. ShaftPly-2 was described as the main shaft in the Anderson Report (Anderson, 1980). The collapsed area associated with ShaftPly-2 is approximately 40 feet in diameter and 70 feet deep. The leasee stated that the collapsed area had deepened in the past year or two.

2.2 MINING AND EXPLORATION PITS AND OPEN CUTS

One pit (Pit-1) was identified at the AUM Site. This pit is approximately 20 feet wide, 50 feet long, and 5 feet deep.

2.3 WASTE AND ORE PILES AND DISTURBANCES

Seven waste or ore piles were identified on the AUM Site. One pile was recorded as a ridge (Pileridge-1) and was approximately 400 feet long and consisted of waste rock. Two of the piles near Pileridge-1 consisted of waste rock as well. Two other piles nearby consisted of the target ore rock and had significantly high gamma radiation readings (PilePly1 and PilePly-4). PilePly-4 was approximately 35 feet wide, 85 feet long, and 11 feet tall, and was described as the "main dump area" in the Anderson Report (1980).

2.4 MINING RELATED BUILDINGS AND FOUNDATIONS

Three mine related structures and one foundation were found at the AUM Site. One structure (StrucPly-1) was a wood shed, approximately 4 feet by 6 feet and 3 feet tall, on the east side of PilePly-4. StrucPly-2 was described as a "powder magazine" in the Anderson Report (1980). This structure was approximately 6 feet by 8 feet and 5 feet tall (though the structure was partially buried with sand and only 2 feet were exposed on the outside). The structure had a No Smoking sign near the entrance. StrucPly-3 was a 4 feet by 8 feet collapsed wood shed. The foundation (FndPly-1) on the AUM Site was near the collapsed structure. This cement foundation was approximately 20 feet wide and 30 feet long.

2.5 OTHER MINE FEATURES

Surrounding ShaftPly-1 is a 20 foot by 20 foot fence, approximately 3 feet high (Fenc-1). The fence was erected by the leasee. Miscellaneous trash was found throughout the AUM Site, however most was south of the mine features (Dumppt-1). The trash included metal car parts, tires, glass, miscellaneous metal, and wood. A small trench, starting near the southeast corner of

PilePly-4, extends south several hundred feet toward San Mateo Creek; please see Photo 10 (Anderson, 1980).

2.6 BOREHOLES

No boreholes were identified at the AUM Site.

2.7 RECLAMATION ACTIVITIES

No reclamation activities were identified at the AUM Site.

3.0 ARCHEOLOGICAL SITES

No apparent archeological sites were identified at or near the AUM Site.

4.0 SITE GAMMA RADIATION READINGS

The background gamma radiation reading at the AUM Site was measured approximately 160 feet from the AUM Site. The background gamma readings were measured at 26 microroentgens per hour (µR/hr) at the ground surface and 24 µR/hr at 4 feet above the ground surface. The gamma radiation readings taken at the AUM Site are provided in Table 2.

The gamma radiation readings throughout the AUM Site varied significantly (Table 2). The gamma radiation readings taken on the waste and ore piles measured the highest on the AUM Site. The maximum readings were recorded on PilePly-1, on grey rock, and were measured at 1200 µR/hr at the ground surface and 400 µR/hr at 4 feet above the ground surface. The other readings recorded on the waste and ore piles ranged from 34 to 500 µR/hr at the ground surface and 37 to 220 µR/hr at 4 feet above the ground surface. A significant difference in gamma radiation readings was observed between the grey rock (Rad-10) from the mine and the tan surface soil (Rad-11).

5.0 CURRENT LAND USES

5.1 HUMAN ACTIVITY AND RECREATIONAL SITE USE

The AUM Site is located approximately ¼ mile south of Hwy 605 and ½ mile west of the Schmitt Ranch. The AUM Site is located in a pasture used for grazing cattle and horses. Cattle and horse prints were observed throughout the AUM Site.

5.2 NEARBY RESIDENTIAL, COMMERCIAL AND INDUSTRIAL STRUCTURES

The Schmitt Ranch, consisting of two residential structures and a number of barns and sheds, is located approximately 0.5 miles east of the AUM Site. These structures are marked as the "Marcus Ranch" on the San Mateo Quadrangle 7.5 minute United States Geological Survey topographic map. Two more residential structures are located within a 1-mile radius of the AUM

Site. One residence is approximately 0.75 miles west of the AUM Site, on the south side of Hwy 605, and the other is approximately 0.85 miles northwest of the AUM Site, on the north side of Hwy 605.

5.3 NEARBY DOMESTIC WELLS

One domestic well designated B-01104 is located within a 1-mile radius of the Eastern AUM Site. The well is a private well drilled in 1986 to a depth of 303 feet with a depth to water of 247 feet.

5.4 EVIDENCE OF GRAZING OR AGRICULTURE

Fences, corrals, barns, and present cattle and horses grazing in the area attest to active ranching activity. One stock well, B-00456 is approximately 0.85 miles from the AUM Site to the northwest.

5.5 EVIDENCE OF WILDLIFE

Prairie dog holes and mounds were observed in the area surrounding the AUM Site.

6.0 VEGETATION

The AUM Site is located in the Coniferous and Mixed Woodland vegetation type. The dominant woody species was a rabbitbrush species. Forbs included sunflower, kochia, and Russian thistle. Several species of grass were observed including a muhly species. There was no evidence of noxious weeds at the AUM Site.

7.0 POTENTIAL OFFSITE IMPACTS

7.1 EROSION

No erosion was observed at the AUM Site.

7.2 ENVIRONMENTAL IMPACTS

There is no evidence of soil staining from chemicals potentially brought to the AUM Site, or from constituents present in the ore or waste rock. Gamma radiation levels at the AUM Site, particularly in the waste and ore piles, are significantly above background level.

8.0 REFERENCES

Anderson, Orin J., 1980. Abandoned or Inactive Uranium Mines in New Mexico. New Mexico Bureau of Mines and Mineral Resources Open File Report 148.

Edwards, Mark H. and Jeffrey Kiely, 2004. New Mexico Water Planning Region 6, Cibola/McKinley Regional Water Plan. Prepared for: The New Mexico Interstate Stream Commission; Prepared by: Northwest New Mexico Council of Governments, Gallup, New Mexico.

McLemore, Virginia T., 1983. Uranium and Thorium Occurrences in New Mexico: Distribution, Geology, Production, and Resources with Selected Bibliography, New Mexico Bureau of Mines & Mineral Resources, Open-file Report 183, pp. 1-21.

Mining and Minerals Division (MMD), 2009. Mine Feature Data Dictionary.

New Mexico Office of the State Engineer (NMOSE), 2008. Wells and Surface Diversions in New Mexico. WATERS_PODS_may08.shapfile. OSE Waters Database.

TABLES

Table 1
Site Features

Chill Willis-NM0101
Abandoned Uranium Mine Assessments

Feature Name	On Site?	Feature Type	Associated Feature	Material	Height or Depth (ft)	Width or Diameter (ft)	Length (ft)	Open	Collapsed	Closure Type	Associated Photo	Notes
Access-1	No	--	--	--	--	--	--	--	--	--	--	--
DumpPt-1	Yes	Historic	--	Rubble	0.00	10.00	3.00	--	--	--	NM0101_023	Car parts, glass, etc
Fenc-1	Yes	Barbwire	--	Metal	3.00	20.00	20.00	--	--	--	--	--
FndPly-1	Yes	--	--	--	0.00	20.00	30.00	--	--	--	NM0101_027	--
Pileridge-1	Yes	--	--	--	3.00	5.00	400.00	--	--	--	NM0101_005 NM0101_006 NM0101_007	--
PilePly-1	Yes	Stock	--	Rock	2.00	25.00	40.00	--	--	--	NM0101_002 NM0101_003	--
PilePly-2	Yes	Waste	--	Rock	2.00	8.00	15.00	--	--	--	NM0101_004	--
PilePly-3	Yes	Waste	--	Rock	6.00	20.00	20.00	--	--	--	NM0101_008	--
PilePly-4	Yes	Stock	--	Soil	11.00	35.00	85.00	--	--	--	NM0101_009 NM0101_010 NM0101_011	11' high at south end, 6' high at north end
PilePly-5	Yes	Other	--	Soil	5.00	12.00	25.00	--	--	--	NM0101_022 NM0101_024	--
PilePly-6	Yes	Other	--	Soil	6.00	20.00	40.00	--	--	--	NM0101_022 NM0101_025	--
Pit-1	Yes	Unknown	--	--	5.00	20.00	50.00	--	--	--	NM0101_022	--
ShaftPly-1	Yes	Main	Fenc-1	--	50.00	15.00	--	Yes	Yes	Collapsed	NM0101_012 NM0101_017 NM0101_018 NM0101_019	Potentially 400 ft deep
ShaftPly-2	Yes	Main	--	--	70.00	40.00	--	Yes	Yes	Collapsed	NM0101_012 NM0101_014 NM0101_015 NM0101_016 NM0101_027	Collapsed shaft per Anderson Report
StrucPly-1	Yes	Shed	PilePly-4	Wood	3.00	4.00	6.00	--	--	--	NM0101_013	--
StrucPly-2	Yes	Shed	--	Wood	2.00	6.00	8.00	--	--	--	NM0101_020 NM0101_021	Structure is partially buried in sand, inside is 5 ft deep
StrucPly-3	Yes	Shed	--	Wood	0.00	4.00	8.00	--	--	--	NM0101_026	Collapsed

Notes:
-- designates no information

Table 2
Gamma Radiation Survey Results

Chill Willis-NM0101
Abandoned Uranium Mine Assessments

Reading ID	Contact (µR/hr)	4 ft (µR/hr)	Associated Photo	Asssociated Feature
Rad-1	200.00	140.00	NM0101_001	--
Rad-2	1200.00	400.00	NM0101_003	PilePly-1
Rad-3	300.00	110.00	NM0101_004	PilePly-2
Rad-4	500.00	190.00	--	Pileridge-1
Rad-5	310.00	220.00	--	Pileridge-1
Rad-6	230.00	160.00	--	PilePly-3
Rad-7	34.00	37.00	--	PilePly-4
Rad-8	430.00	250.00	--	ShaftPly-2
Rad-9	24.00	21.00	--	ShaftPly-1
Rad-10	270.00	240.00	--	--
Rad-11	18.00	20.00	--	PilePly-5
Rad-12	16.00	21.00	--	PilePly-6
Rad-13	65.00	46.00	--	--
RadBack-1	26.00	24.00	--	--

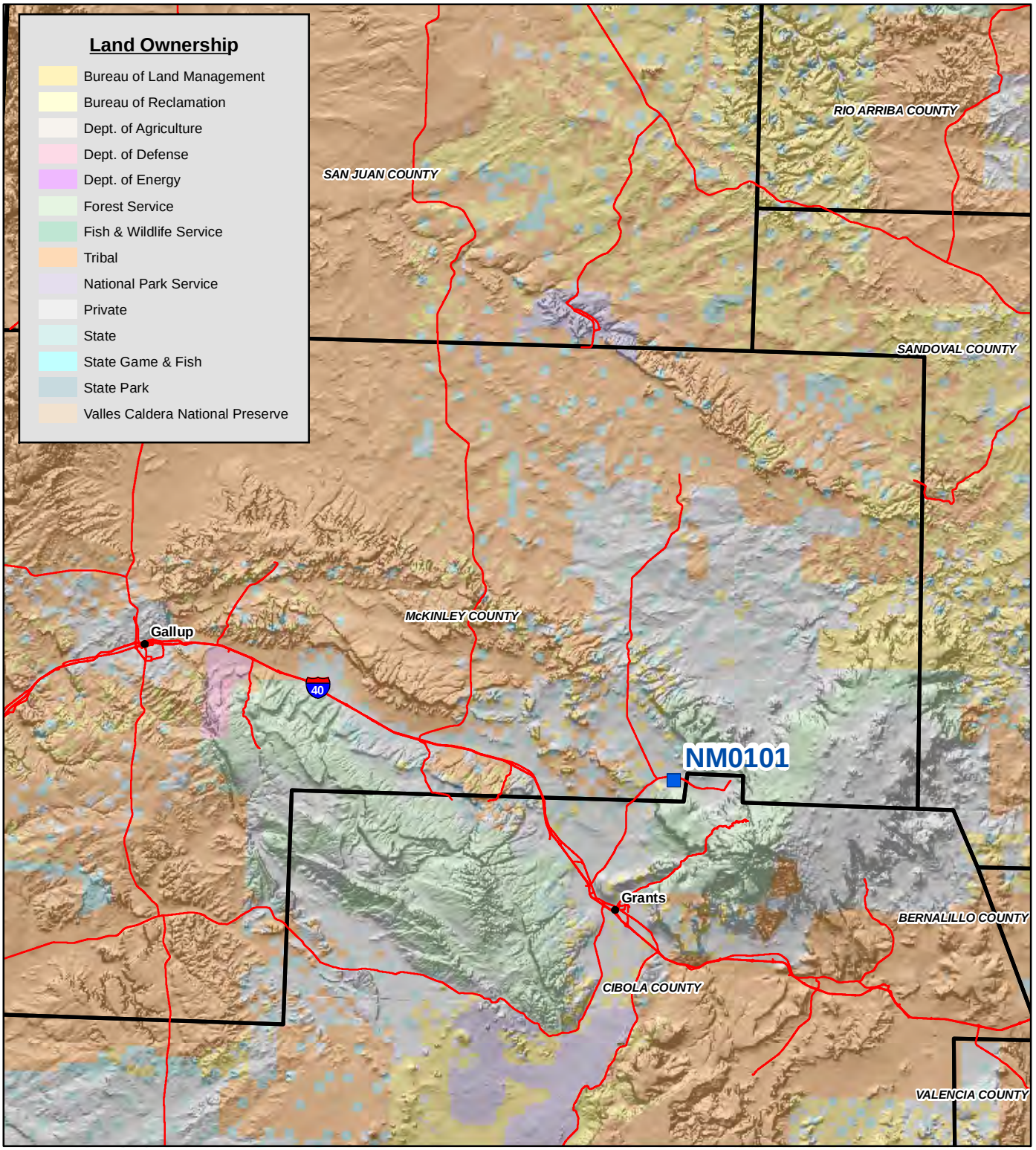
Notes:

All gamma readings at this site taken by Ludlum 192 µR/Ratemeter

µR/hr=microroetgens per hour

-- designates no information

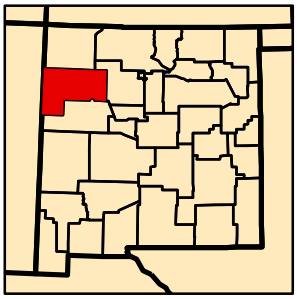
FIGURES



Map Source(s):
Ownership - BLM, 2007

0 7.5 15 30
Miles

NORTH



Legend

- AUM Location
- Road
- County Boundary

Figure 1
Site Location Map
NM0101-Chill Willis
Abandoned Uranium Mine Assessment

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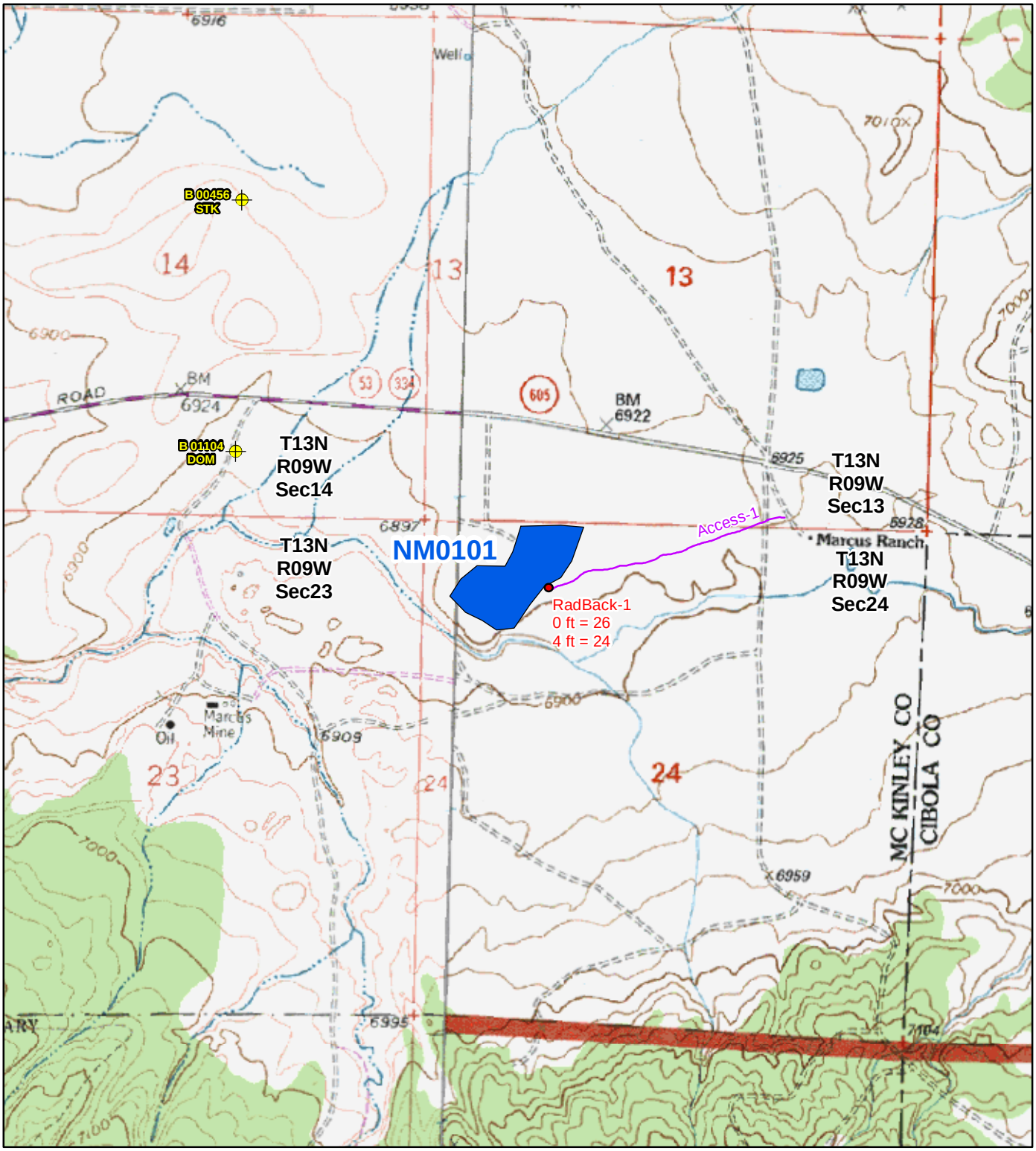

Map Source(s):
U.S. Geological Survey 7.5-Minute
Topographic Map
-Dos Lomas, 1980
-San Mateo, 1955

0 750 1,500 3,000
Feet

NORTH

Legend

- Radiation Readings (µR/hr)
- Well Within 1 Mile of Site
- Access Route
- AUM Location Boundary (MMD Provided)

Figure 2
Topographic Map
NM0101-Chill Willis
Abandoned Uranium
Mine Assessment

INTERA

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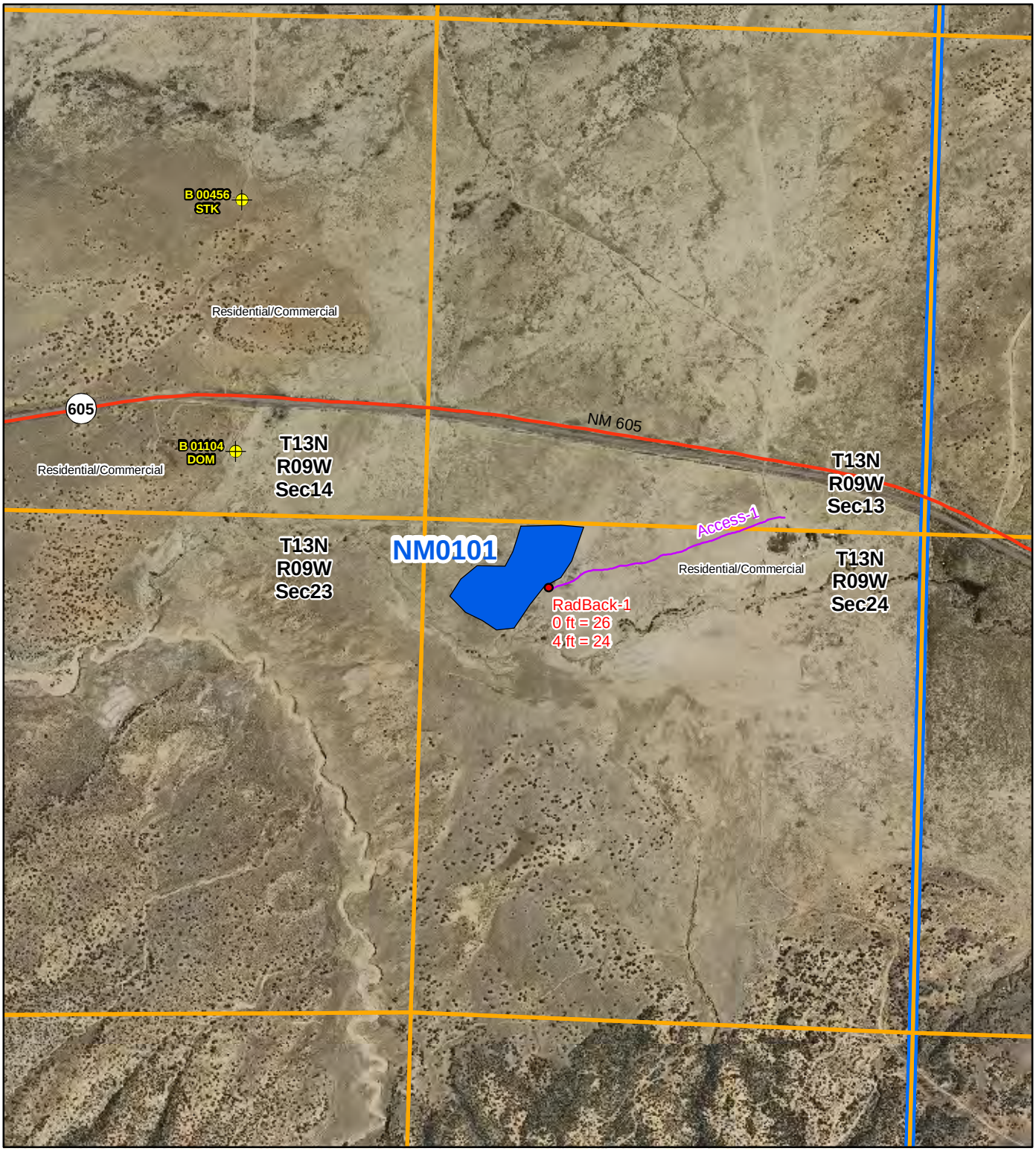

Map Source(s):
U.S. Geological Survey 7.5-Minute
DOQQ County Mosaic
-McKinley County, 2009

0 750 1,500 3,000
Feet

NORTH

Legend

- Radiation Readings (µR/hr)
- Well Within 1 Mile of Site
- Access Route
- Highway/Freeway
- AUM Location Boundary (MMD Provided)
- Section Boundary
- Township/Range Boundary

Figure 3
Site Photo
NM0101-Chill Willis
Abandoned Uranium
Mine Assessment

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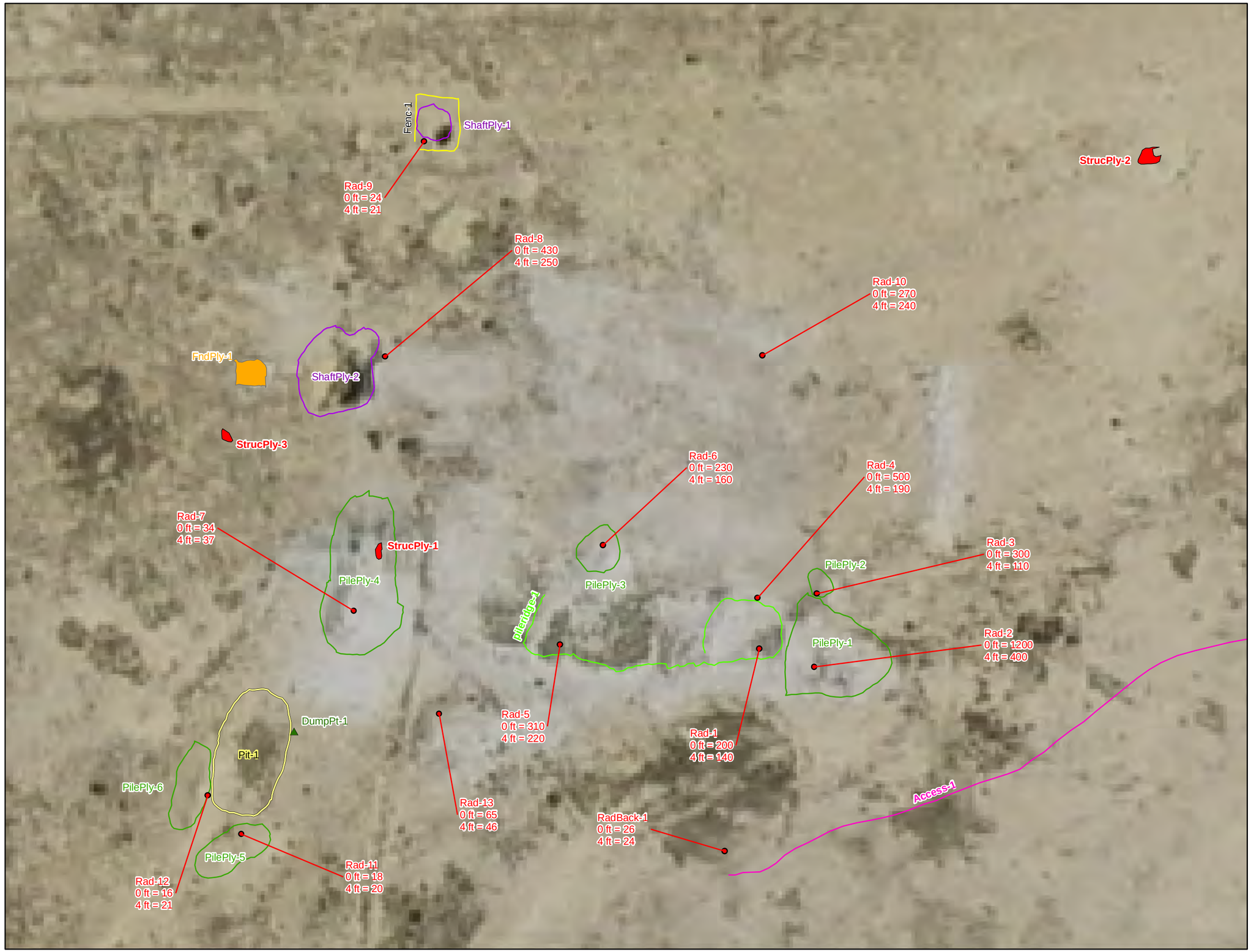

Legend

- Radiation Readings (µR/hr)
- Dump Location
- Fence
- Pile Ridge
- Access Route
- Pit Boundary
- Shaft Boundary
- Pile Boundary
- Foundation Boundary
- Structure Boundary

0 40 80 160

Feet

NORTH

Map Source(s):
U.S. Geological Survey 7.5-Minute
DOQQ County Mosaic
-McKinley County, 2009

Figure 4a
Site Map on
Aerial Photo
NM0101-Chill Willis
Abandoned Uranium
Mine Assessment

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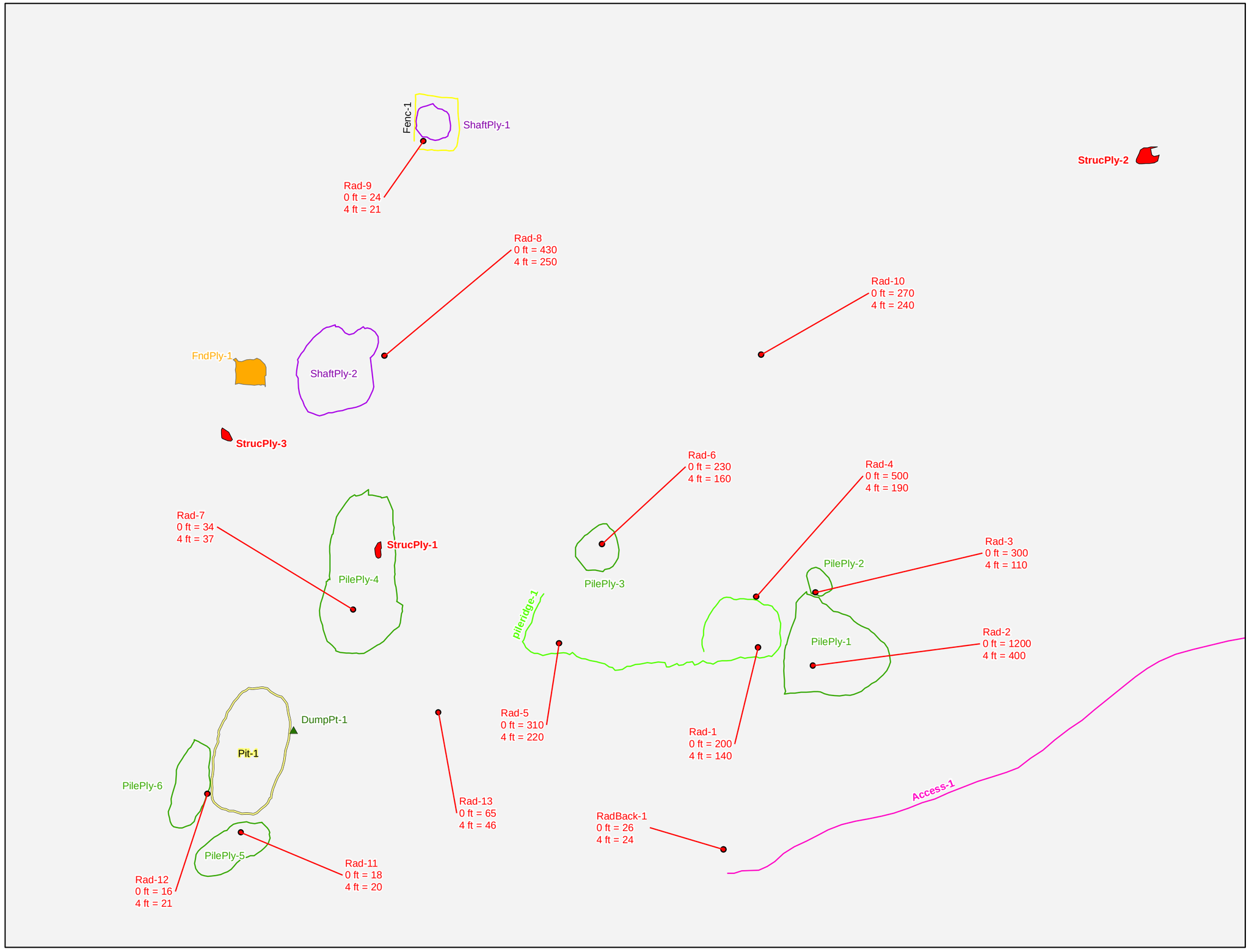


Legend

- Radiation Readings (µR/hr)
- Dump Location
- Fence
- Pile Ridge
- Access Route
- Pit Boundary
- Shaft Boundary
- Pile Boundary
- Foundation Boundary
- Structure Boundary

Surface Ownership

- Private

0 40 80 160

Feet

NORTH

Map Source(s):
Ownership - BLM, 2008

Figure 4b
Site Map with Surface Ownership
NM0101-Chill Willis
Abandoned Uranium Mine Assessment

File: S:\Projects\EMMD-001_Abandoned Uranium Mine Assessment\Sites\NM0101-Chill_Willis\GIS\Mapl\CloseUp_Map_Ownership_ChillWillis_CP.mxd 04/19/2010

APPENDIX A

PHOTO LOG

Note: Gaps in the numbering sequence of the photos is the result of removing photos not suitable for the report. A full set of photos is provided in the electronic deliverable.

Photo 1-Looking west at the Site.

Photo 2-Looking north at waste pile (PilePly-1).

Photo 3-Looking at scintillometer reading on grey rock on PilePly-1 (Rad-2; 1200 µR/hr at contact).

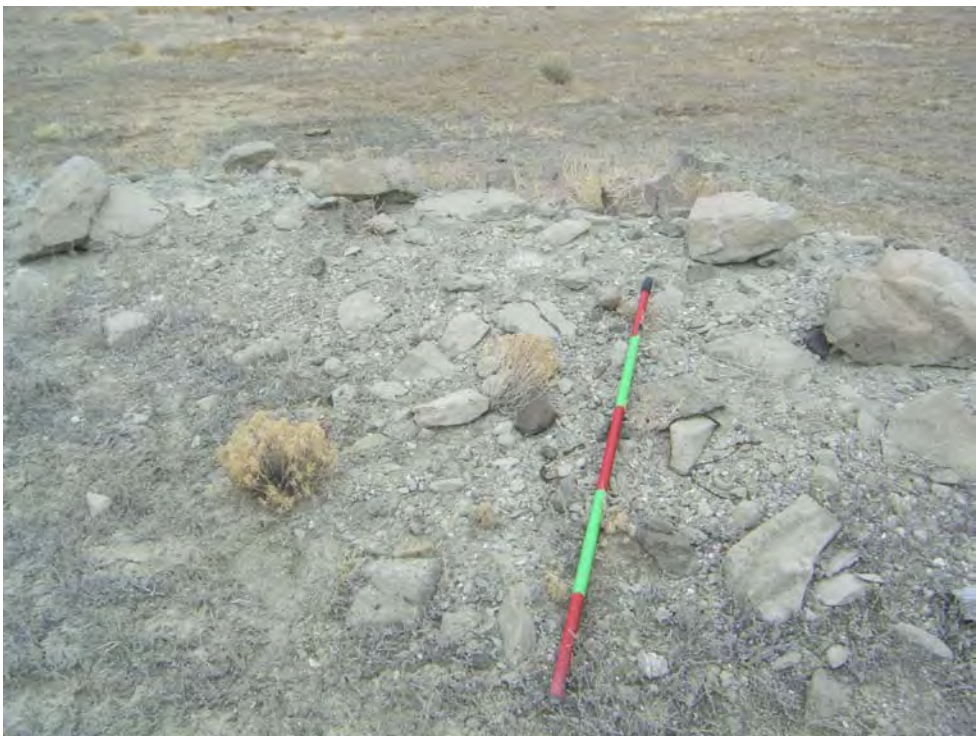


Photo 4-Looking east at waste pile (PilePly-2).

Photo 5-Looking north along a waste pile (PileRidge-1).

Photo 6- Looking south along PileRidge-1.

Photo 7- Looking west along PileRidge-1.

Photo 8-Looking north at PilePly-3.

Photo 9-Looking west at PilePly-4 (“Main dump” in Anderson Report) replicating Photo “e” from the Anderson Report.

Photo 10- Looking south from the top of PilePly-4 (“Main dump”) replicating Photo “f” from the Anderson Report.

Photo 11- Looking east from the top of PilePly-4 (“Main dump”) replicating Photo “g” from the Anderson Report.

Photo 12- Looking north from the top of PilePly-4 toward the subsidence (SubsidPly-1) and shaft (Shaft-1) replicating Photo “a” from the Anderson Report.

Photo 13-Looking west at the structure (StructPly-1) on the northeast side of PilePly-4.

Photo 14-Looking south at ShaftPly-2, referred to the “caved mine shaft” in the Anderson Report.

Photo 15-Looking north at the ShaftPly-2 replicating Photo “b” from the Anderson Report.

Photo 16-Looking north down into the ShaftPly-2.

Photo 17-Looking north at a caved mine shaft (ShaftPly-1).

Photo 18-Looking down into ShaftPly-1, caved depth was approximately 50 feet or more (note timber in center of shaft).

Photo 19-Looking north at fence (FenceLn-1) around ShaftPly-1, erected by leasee.

Photo 20-Looking west at StructPly-2, referred to as a “powder magazine” in the Anderson Report.

Photo 21-Looking southwest at “powder magazine” (StructPly-2) replicating Photo “d” from the Anderson Report.

Photo 22-Looking south at Pit-1, with PilePly-5 on the left and PilePly-6 on the right in the background.

Photo 23-Looking northwest at DumpPt-1, near PitPly-1.

Photo 24-Looking south at PilePly-5.

Photo 25-Looking north at PilePly-6.

Photo 26-Looking south at collapsed structure (StructPly-3).

Photo 27-Looking east at a 20 by 30 foot concrete foundation (FndPly-1) with SubsidencePly-1 in the background.

APPENDIX B

FIELD NOTES

Site Name: NM0101, Chill Willis

Objective: Site Assessment

Personnel: Annetia Tinklenberg
Amy Andrews

Equipment: Rental truck, Trimbel GeoXM (SN: 4948447271, 2008 Series), Ludlum 192 (SN: 234149), FujiFilm digital camera (No: 80839493), back up Garmin GPS, cell phone amplifier, field laptop

1400 Talked to Bob Schmitt, gave access for NM0141 Bobcat, about NM0101. Mr. Schmitt told us to go to his brother's house, Tim and Diane Schmitt

1410 At Tim and Diane Schmitt's property, talked to Diane about Chill Willis, NM0101 and Charlotte, NM0143. Diane gave permission to access AUM site, she rents property from Margaret Marquez and her son, Wesley.

1440 At site.

Background Rad - at truck; 0m - 26 uR/h; 1m - 24 uR/h

Photo 1 - Site Name, looking west

Rad 1 - Photo 1 site; 0m - 200 uR/h; 1m - 140 uR/h

AUT
~~Ply~~ PilePly-1 - 25' wide, 40' long, 2' tall; grey ~~waste~~ AUT rock, ore pile; 10%
Photo 2 - looking north at PilePly-1
Rad 2 - PilePly-1 - on grey rock; 0m - 1200 uR/h
1m - 400 uR/h
Photo 3 - Rad 2, grey rock and scintillometer

PilePly-2 - 15' long, 8' wide, 2' tall; waste rock; 10%
Photo 4 - looking east at waste pileply-2
Rad 3 - PilePly-2 - 0m - 300 uR/h; 1m - 110 uR/h

PileRidge-1 - 5' wide, 3' tall, long 'J'-shape; waste
Photo 5 - looking north at PileRidge-1
Photo 6 - looking south at PileRidge-1
Photo 7 - looking west at PileRidge-1
Rad 4 - PileRidge-1 - 0m - ~~380~~ 500 AUT uR/h; 1m - 190 uR/h
Rad 5 - PileRidge-1 - 0m - 310 uR/h; 1m - 220 uR/h

PilePly 3 - 20' x 20'; 6' tall; waste rock; 20%
Photo 8 - looking north at PilePly 3
Rad 6 - pileply 3 - 0m - 230 uR/h; 1m - 160 uR/h

PilePly-4 - "Main Dump" in Anderson Report
85' long; 35' wide; 11' tall at south end; 6' tall at north end
Photo 9 - ~~looking~~ AUT looking west at PilePly 4 (per Anderson report)

Photo 10 - looking south from top of dump, pileply-4
Photo 11 - looking east from top of pileply-4
Photo 12 - looking north from top of pileply-4 (per Anderson report)

Rad 7 - top pilyply-4; 0m-34uR/h; ~~last~~ ALT 1m-37 uR/h

StructurePly-1 - 6' long, 4' wide, 3' tall wood 3-sided structure on side of PilePly-4 (main dump in Anderson report) tin top
Photo 13 - looking west at StructurePly-1

SubsidencePly-1 - 40' diameter; 20' deep wood structural supports, may have been shaft - unclear
Photo 14 - SubsidencePly-1, looking south
Photo 15 - subsidencePly-1, looking north
Photo 16 - looking north down into subsidenceply-1

Rad 8 - subsidencePly-1; 0m-430uR/h; 1m250-uR/h

ShaftPly-1 - 15' diameter; 50' deep, collapsed shaft is reported to be 375-450' deep Main shaft; shaft in photo from Anderson report was not main shaft
Photo 17 - looking north at shaftPly-1
Photo 18 - looking into shaft Ply-1

Rad 9 - ShaftPly-1 - 0m-24uR/h; 1m-21uR/h

Photo 19 - looking north at fence around ShaftPly-1
FenceIn-1 - 20' x 20'

StructPly-2 - mentioned in Anderson Report as powder magazine; wood structure 2' tall; 6' x 8'; inside is ~5' deep

1545
Photo 20 - looking ~~southwest~~ ALT at StructPly-2

Photo 21 - looking southwest at StructPly-2 (per Anderson)

Rad 10 - between structPly-2 and pilyply-4; 0m-270 uR/h; 1m-240uR/h

PitPly-1 - 5' deep; 20 x 50'; 3 associated piles
Photo 22 - PitPly-1 looking south

DumpPt-1 - 2 tires, and 1 muffler, various metal 10 x 3'
Photo 23 - DumpPt-1 looking northwest

PilePly-5 - 5' tall; 25' long 12' wide; 15% associated with ~~DumpPt~~ PitPly-1; dirt from Pit
Photo 24 - PilePly-5 looking south
Rad 11 - PilePly-5 0m-18uR/h; 1m-20uR/h

PilePly-6 - 6' tall; 20' wide, 40' long; dirt from PitPly-1
Photo 25 - PilePly 6 looking north
Rad 12 - PilePly 6 - 0m-16 uR/h; 1m-21 uR/h

StructPly-3 collapsed; 4' x 8'; wood, metal hinges; pipe under wood.
Photo 26 - structPly-3 looking south

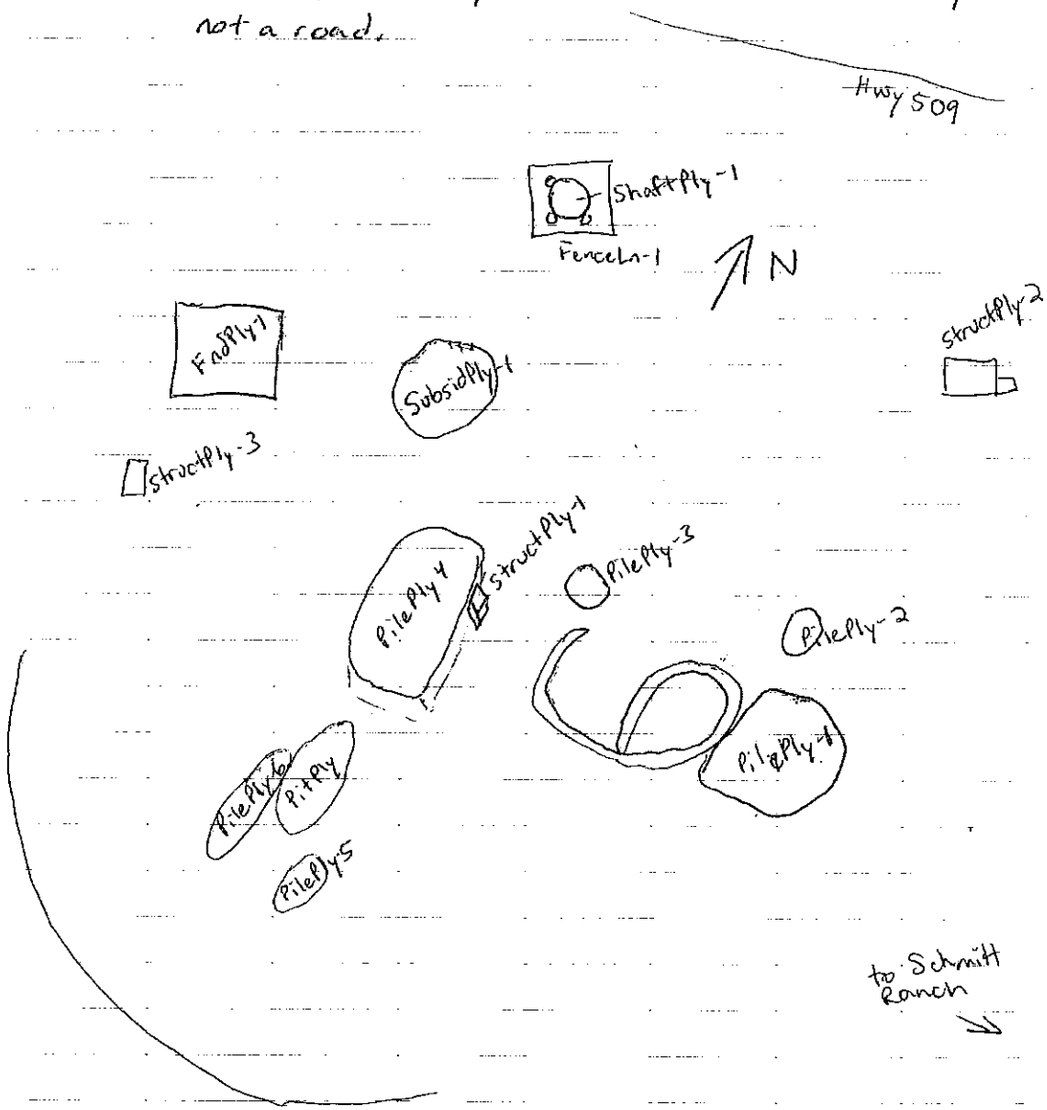
FndPly-1 - cement foundation 20' x 30'; 30 ft west of subsidenceply
Photo 27 - looking east at FndPly-1

Rad 13 - southeast PilePly-4; 0m-65 uR/h; 46 uR/h

Various pieces of trash throughout the site; wood, scrap metal, tires, glass, metal nails, etc.

1725 Back at truck to drive out.

Access Rd-1, across pasture to Schmitt house, not a road.



~~Soils~~ AGT

1730 Leaving Schmitt house, talked to Diane Schmitt again. Diane said that she was not sure where NM0143, Charlotte, was on her property but that if it was near her property line with Elkins we should access the mine site from his property on the south. there are no roads to the area on the south end of her property coming from the north. Diane Schmitt said it would be fine if we needed to access NM0143 from the Elkins property to the south, we could go over the fence.

Soils: Tan - brown sand - silt. Grey sand - silt in waste pile areas. Alluvial deposition.

Rocks: No outcropping of rock; some small pieces of tan - red sandstone. Grey - black sedimentary rock, sandstone, in waste piles.

Human Activities: less than 1 mile south of Hwy 605 and west of Tim and Diane Schmitt Ranch. Cattle and Horse pasture. Old tires and miscellaneous trash.

Wildlife: Dry, overgrazed valley. Prairie dog holes.

AGT